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What aspects of the ICTPD programme have been most helpful in equipping teachers to successfully implement ICT in their classrooms?

**INTRODUCTION**

Over the last decade the New Zealand ICT professional development (ICTPD) cluster programme has provided Ministry of Education (MOE) funding to schools to support the use of digital technologies. Each cluster receives funding for a three-year period and a common issue amongst cluster schools is how to sustain the professional learning activities after the funding ceases. This article discusses how schools can manage without the financial and professional support that the cluster programme provides.

Although the ICTPD cluster programmes come to an end, technology continues to change, and schools must meet the challenge of managing on their own without the financial and professional support that came with being part of these clusters. How will they continue the progress they have made in implementing ICT into their class programmes and also keep up with the constantly evolving technologies as we move further into the 21st century? Will lead teachers be able to continue delivering the necessary professional development successfully past the project and be able to sustain the momentum created within the learning community? How effective is the cluster professional development and will it be able to continue post-cluster? These key questions prompted my research which explores and evaluates aspects of the ICTPD cluster project including professional development strategies, and the role of the lead teachers and professional learning communities.

**BACKGROUND TO MY RESEARCH**

The context for this research is a school that joined the ICTPD clusters programme in 2009. This cluster was different than all other clusters as there were only 5 small schools involved and their total funding was what other clusters received each year. This combined with the isolation of the cluster from major centres made it a unique experience.

This cluster experienced challenges because of its remote location. For example, principals and facilitators noted the difficulty they had in attracting high quality speakers to their area, and the added travel expenses of sending their lead teachers to conferences or to visit other schools. They also found it difficult to release teachers for PD because of the shortage of relief teachers.

The school at the centre of this study had made some key changes to their way of distributing leadership and implementing professional development prior to the beginning of the programme. As part of a master’s degree the principal implemented a shared leadership model into the school as her first step to establishing a professional learning community within her staff. She believes that sharing leadership develops the skills of all staff and helps them to feel valued and part of a team. ERO (2009) report also endorsed that shared leadership was one of the factors of high quality PD management. believe the catalyst for motivation in a professional learning community is that responsibility and authority are distributed and shared between the principal and the teachers (Hord and Sommers, 2008).

A key strategy to support professional development was to foster a community of learners within the school for the adults as well as children Lead teachers were selected to work in four specific areas, literacy, numeracy, arts and ICT. Early in the PD programme these teachers were provided with extra time and support from the principal as well as outside agencies. These teachers were in charge of identifying the needs within the school in their curriculum, organising PD and evaluating the effects on students’ learning.

**ICT professional development in schools and more specifically the New Zealand ICTPD clusters programme and the role of lead teachers within these programmes.**

In 1998 the Ministry released its new national ICT strategy, Interactive Education: An Information and Communication Technologies Strategy for Schools (Ministry of Education, 1998) and from this national policy statement, structural and professional development initiatives were introduced. One of these initiatives was the “ICT PD Clusters” programme which began in 1999 with the formation of 23 clusters and which has continued, with some changes, until recently. The Ministry of Education provided funding to the clusters for a period of three years so that the cluster schools could manage their own professional development programme. This was a contestable process and clusters put forward detailed proposals of how they would manage their own professional development. The successful clusters then negotiated the goals and processes with the Ministry of Education.

Each cluster chose their own cluster goals based on their needs related to the National Programme Goals. These goals were reported on by each school in six milestone reports over the three year period. Each cluster was assigned to a national facilitator and many clusters also employed their own facilitator to coordinate and run their programme. The clusters designed and implemented their own models of PD using a range of different strategies to suit their circumstances and context. Many clusters chose to use a lead teacher at each school to lead professional development.

**LITERATURE REVIEW**

There have been several formal evaluations of the cluster programme and specifically the effectiveness of the professional development being delivered. The 2002 evaluation of the cluster programme *What Makes for Effective Teacher Professional Development in ICT?* (Ham, et al, 2002) and the *Through the Lenses* (Ham et al, 2004) were similar in scope and scale. As the programme progressed the evaluations reported higher levels of participant satisfaction than previous years. Ham and colleagues found that although the delivery modes of professional development were varied overall, participants reported very high levels of goal achievement as a result of the ICTPD programmes. Teachers highlighted the benefits as sharing of professional expertise, increased confidence in relation to ICTs, and developing understandings about both the practice of, and the professional rationale for, teaching and learning with ICTs (Ham, et al, 2002). Many factors such as the organisation of the cluster, and the programme content affected each clusters’ performance. Programmes which incorporated personal skill development, practical classroom ideas, and sound pedagogical rationales had more long term effects than programmes with a narrower focus. When it came to specific PD strategies teachers needed time to learn and use the skills as well as collegial support. Another key point was the effect that the commitment, collaboration and understanding shown by senior management had on the successfulness of the programme. (Ham, et al, 2002). ERO (2009) also believed the quality of leadership was an important difference between schools with effective professional development.

Teachers tended to prefer one-to-one or small modes of grouping for professional development (Ham, 2005). Female teachers showed a preference to working in ability groups and a preference was shown for sector based groupings over mixed primary-secondary groups. Other strategies highly ranked by both 2001 and 1999 cohorts involved release time, mentors and one to one tutorials. Professional readings and online communities were not ranked highly. When comparing the 1999 cohort with the 2001 cohort they found that teachers began with a higher personal skill level and this was a trend that they found in subsequent cohorts that entered the programme and seems to indicate that skills based professional development is a continuing commitment in schools not part of a cluster programme (Ham, Graham & Toubat 2004).

**PROFESSIONAL DEVELOPMENT**

When designing a professional development program in ICT, McKenzie (1998) points out that it is necessary to clarify the purpose of the professional development about to be undertaken. He offered a series of steps that he calls “professional development that works” that encourage teachers to accept ICT as one of their tools for teaching and learning. In particular he advocates professional development for teachers as an essential ingredient contributing to school improvement as does Hargreaves and Fink (2003) if there is going to be any lasting change or improvement produced in a school.

**Lead teachers as a form of delivering professional development**

The choice of lead teachers is critical to the success of the group (Bush & Middlewood, 2005). Okey’s (2006) study confirmed this and identified some key traits in a successful ICT lead teacher. They needed to be experienced and have good ICT skills as well as be respected by other teachers. Okey found several advantages to using lead teachers for the delivery of professional development. As the lead teachers are classroom teachers themselves they are exploring and using these ICTs to enhance their student’s learning. Furthermore, they are on site and available to teachers for “just in time” support (Okey, 2006).

Leaders need to be system thinkers, engaged in changing the bigger context. Leading is about energizing other people to make good decisions and do better things (Fullan, 2006a). Research supports the idea that leadership may be performed by many different people in a school (Leithwood & Riehl, 2003; Harris, 2003; Bray, 1999). They may have various roles in the school, but they can provide direction and have some influence on others in order to achieve school’s goals. This leads to another key theme in my research - professional learning communities. A professional learning community exists when there is collaboration among staff and where professional conversations take place in an environment that values and respects the opinions of others. Ham (2004) found an aspect that teachers appreciated as part of the ICT programme was the opportunities to share ideas, problems and reflect together on their use of ICTs suggesting that a learning community is continuing to develop within these clusters and to continue this past the project may help sustain the momentum. Leonard and Leonard (2003) suggest that there are some key ingredients in a professional learning community including moral interpersonal relationships, collective learning, empowerment, growth, and self-efficacy. Fullan (2006a) discusses the importance of a collaborative culture not only within the school but across the schools to be able to implement long term system change. Teachers need to be able to engage in continuous and sustained learning about their own practice. They need to be involved in the practice of observing and being observed by not only their own colleagues but from teachers in other schools. This individual and collective professional learning needs to be built into the culture of the school by teachers learning to do this virtually every day.

‘Shared expertise is the driver of instructional change’ (Elmore and Barney, 1999, p. 272).

In summary research shows that collaboration across schools will ensure professional learning communities build those relationships between schools and get teachers talking and sharing. Making this cultural change across the cluster or region will help to sustain the professional learning of the community as a whole not only in ICT but other curriculum areas as well.

**RESEARCH METHODS**

Qualitative research methods were predominantly used in my research to gather a rich description of the study school and form generalisations to accurately collect the opinion of the participants in the study (Mutch, 2005). However some of the research questions lent themselves to a quantitative approach as they compared variables that could be counted. (Mutch, 2005). A case study was chosen as this mode of inquiry is useful for small scale research projects (Yin, 2003). This case study is of an “explanatory” type. Yin (1993) and as I have an interest in the case it can be categorised as an “intrinsic” type according to Stake (1995).

Data was collected through teacher questionnaires as well as lead teacher and principal interviews. Documentation from milestone goals, lead teacher reports and PD sessions was analysed.

**FINDINGS**

To allow the reader to understand the findings I will explain the types of professional development the lead teacher implemented.

**Techy Brecky:** these sessions were run on a Friday before school. All teachers were required to attend these sessions where they learnt about new tools, skills and programmes were introduced. These sessions gave teachers time to experiment with these new tools and discuss how they could be used in their classrooms. Help was on hand when needed.

**Cluster Share Meetings:** All schools in the cluster were required to host one cluster share meeting at their school each year. This was a time to share with other schools the ICTs they had been using in their classrooms.

**Modelling Sessions:** Lead teachers or other ICT facilitators would model teaching and learning using ICT with a class of children with teachers observing.

**Tech Angels:** The lead teacher ran ICT classes at lunchtime with groups of children. The tech angels were then assigned to classes to pass on their skills to the teachers and students.

**1 on 1 session:** These were held by the lead teacher when needed to give extra help to individual teachers

**School ICT Blog:** The lead teacher updated regularly a blog specifically for ICT. This had links to programmes, help sheets, tips and ICT requirements.

**THE PRINCIPAL**

As mentioned earlier the Principal had recently introduced the shared leadership model into the school as her first steps to implementing a professional learning community in the school. Therefore the school had already begun to use lead teachers as their key form of professional development delivery.

The Principal felt that the most successful initiatives that the lead teacher had introduced into the school were the ‘techy brecky’ sessions. The Principal also attended these sessions and indicated that her ICT skill level has improved. However teachers ranked this as the least effective form of PD which could be related to their least favourite time for PD sessions being the mornings.

**THE LEAD TEACHER**

The lead teacher described her fellow teachers as having a positive attitude towards all PD sessions and attendance was high. She believed these positive results had come from the professional learning community that had recently been established at the school. Teachers also indicated the importance of the professional learning community in ensuring the PD and the response was more amicable and a key factor to sustain teachers’ professional learning in ICT.

The lead teacher discussed how supportive the principal was with ICT initiatives in the school which were backed up with the performance management system to ensure all teachers were implementing ICT into the school.

Some of the barriers the lead teacher came across were the financial restraints when purchasing equipment, the school network that desperately needs to be upgraded to allow students to use programmes effectively and the balance with other commitments in the school. These barriers were also raised by the teachers and the principal.

The lead teacher believed the most successful strategy was the cluster share sessions. These sessions enabled the teacher to witness successful ICT use and she found her teachers became more positive and willing to try these new ideas in their classrooms. The conversations at these meetings were invaluable as teachers offered each other help and shared their ideas. Another successful initiative was the tech angels, by using the students to teach the class the teacher was able to facilitate the sessions as well as learn from their students.

Milestone reports showed that teachers from this school had all improved their own personal skill level with ICT as well as the amount of time they were using ICT in their classrooms. This was also evident in the teacher questionnaires

**THE TEACHERS**

The teachers were asked to rank their preference of professional development delivery. The graph below indicates teachers found modelling sessions the most effective followed by the ICT blog. The up skilling of their students by the lead teacher through Tech Angel sessions was also popular. Techy Brecky sessions were the least popular and the reason for this can be seen in the second graph where before school sessions were the least popular times for professional development. Moving these meetings to after school may be more successful.

Table 1

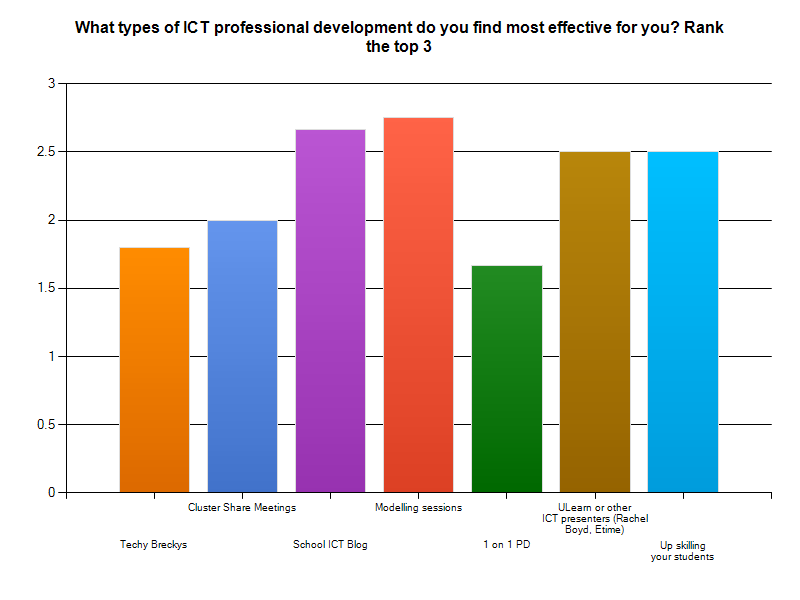
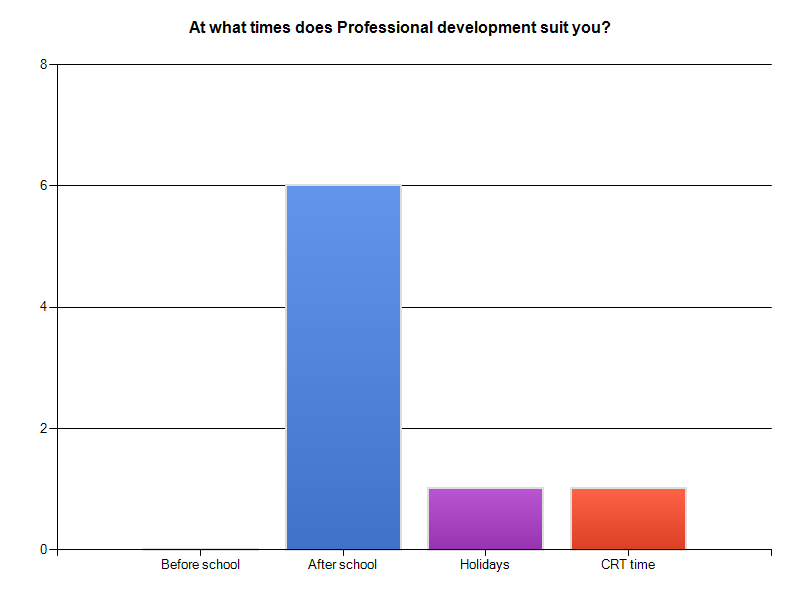


Table 2



Most of the teachers felt that their pedagogy had changed since the beginning of the project and they all now believe that ICT is an integral learning tool for 21st century learners to live and succeed in the future. This is in stark contrast to early milestone reports which found only some of these teachers could see the benefits of ICT. They felt that the project had enabled them to be kept up to date with new initiatives and research. The ICT skills they have learned has enhanced their students learning.

Some of the effective strategies teachers have used in their classrooms have been learning with the students, peer tutoring by the students, thinking skills, digital art and online learning tasks.

The most beneficial to teachers to implementing ICT in their classroom has been their lead teacher’s willingness to help, hands on activities and sharing ideas with other schools. The principal also believed the enthusiasm of the lead teacher and positive staff are key factors to sustaining ICT use in the school.

The professional learning community established in the school has been an important factor in the success of this project. The popularity of the cluster share meetings sits well with Fullan’s (2006a) emphasis on the importance of professional learning communities that include collaboration across the schools. In the cluster evaluations Ham (2004) also talks about the teachers’ appreciation of being able to share their ideas with other teachers.

**CONCLUSION**

While this case study is based on one small school some key findings have stood out which I believe will be crucial to sustain the successful momentum generated from the ICTPD project in this school.

The establishment of the professional learning community in the school has been crucial in forming a positive environment for the lead teachers to work in. The next step is to ensure that the lead teachers continue to keep the staff up to date with new technologies and ideas as well as being on hand for support when needed. This will allow the staff to have the confidence to continue successfully implementing ICT into their classroom. Professional development delivered after school is more effective.

The collaboration across schools through the cluster share meetings has been highly successful with teachers going back and trying new things in their classrooms and this may be another key way of sustaining ICT once the project finishes as the cost for these sessions are minimal.

The ministry initiatives of Ultra fast broadband and School network upgrades will address some of the key barriers to ICT use in the school however financial issues will need to be addressed to ensure the schools equipment is kept up to date.

**REFERENCES**

Education Review Office. (2009). Managing Professional Learning and Development in Primary Schools. Wellington, New Zealand: Author.

Elmore, R. and Barney, D. (1999). Investing in teacher learning: Staff development and

Professional Learning Communities 73 instructional improvement. In L. Darling-Hammond and G. Sykes (Eds.), *Teaching as the learning profession: handbook of policy and practice* (pp. 263-291). San Francisco, CA: Jossey-Bass.

Fullan, M. (2006a). ‘Leading Professional Learning’. *The School Administrator*. November.

Ham, V., Gilmore, A., Kachelhoffer, A., Morrow, D., Moeau, P., & Wenmoth,

D. (2002). *What Makes for Effective Teacher Professional*

*Development in ICT? An Evaluation of the 23 ICTPD School Clusters*

*Programme 1999-2001.* Wellington: Ministry of Education.

Ham, V., Moeau, P., Williamson-Leadley, S., Toubat, H., & Winter, M. (2004).

*ICTPD Through Three Lenses*. Christchurch: Christchurch College of

Education.

Ham, V. Graham, F. & Toubat, H. (2004). National Trends in Teacher Participation in

ICTPD Cluster Programmes, 1999-2004: Results from the Baseline Surveys.

*Intermediate Report to The Ministry of Education.* Unpublished.

Hord, S.M. & Sommers, W.A. (2008). *Leading professional learning communities: Voices from research and practice.* Thousands Oaks, CA: Corwin Press.

Mckenzie, J. (1999). How Teachers Learn Technology Best. USA:FNO Press.

Mutch, C. (2005). Doing educational research: A practitioner’s guide to getting started. Wellington: NZCER Press.

Okey, D. (2006). Where to After the Cluster: Using Lead Teachers to Sustain ICT PD after the Cluster Funding Finishes. *Unpublished thesis submitted in partial fulfilment of the degree of Master of Education*, New Zealand: Unitec Institute of Technology

Phelps, R., Graham, A., Kerr, B. (2004). Teachers and ICT: Exploring a metacognitive approach to professional development.*Australasian Journal of Educational Technology,* 20(1), 49-68.